IN THE UNITED STATES DISTRICT COURT

DISTRICT OF OREGON

BRIKE INTERNATIONAL, LTD.,	)	
	)	
Plaintiff,	)	Civil Case No. 05-1754-KI
	)	
vs.	)	OPINION AND ORDER
	)	
INVACARE CORPORATION,	)	
	)	
Defendant.	)	

Joseph N. Hosteny
Paul K. Vickrey
Sally J. Wiggins
Niro, Scavone, Haller & Niro
181 West Madison Street, Suite 4600
Chicago, Illinois 60602

Peter E. Heuser
Kolisch Hartwell, P.C.
200 Pacific Building
520 S.W. Yamhill Street
Portland, Oregon 97204

Attorneys for Plaintiff

Charles B. Lyon
George R. Hoskins
Calfee Halter & Griswold, LLP
800 Superior Avenue, Suite 1400
Cleveland, OH 44114

Scott E. Davis
Klarquist Sparkman, LLP
One World Trade Center
121 S.W. Salmon Street, Suite 1600
Portland, Oregon 97204

Attorneys for Defendant

KING, Judge:

Both Plaintiff Brike International, Ltd. and defendant Invacare Corporation manufacture and sell handcycles, hand-powered vehicles commonly used by riders whose disabilities prevent them from using foot-powered bicycles. In this action, Brike alleges that some of Invacare's handcycle products infringe Claims 1 and 3-8 of Brike's U. S. Patent No. 5,853,184, entitled "Handcycles." Before the court are the parties' briefs concerning claim construction. I construe the disputed terms below.

FACTS

The relevant part of the '184 patent's Abstract states:

> A hand-powered vehicle with a device for positioning the crank arms so that the rider can easily adjust them for both vertical and horizontal movement and placement. A device for supporting the rider's legs and feet that combines both a leg support and footrest that can be adjusted forward and rearward relative to the front wheel to accommodate the different rider leg lengths. . . . A device for lowering the structure of the frame below the axis of the front wheel for the purpose of lowering the center of gravity of the bike and rider.

Hosteny Decl. Ex. A at 1 [hereinafter '184 Patent].

Claims 1 and 3-5 concentrate on the hand crank adjustment:[1]

1. A hand pedaled device comprising:

a frame;

a wheel mounted on the frame;

a hand crank mounted on the frame;

a drive member connecting the wheel and hand crank whereby manual rotation of the hand crank rotates the wheel;

said hand crank mounted to the frame by a pair of arm segments each having opposed first and second ends, each first end of the pair of arm segments connected to the hand crank and each second end connected to the frame at spaced apart points of connection and each of said arm segments defining a length between said hand crank and said points of connection for the pair of arm segments; and

releasable locking means for releasably locking the arm segments at a specified distance between said points of connection whereby with the locking means released, the crank arm position relative to the frame can be selectively adjusted to any horizontal or vertical position within a range of movement as permitted by the pair of arm segments.

'184 Patent, 6:5-28.

3. A hand pedaled device as in claim 1 comprising:

a frame;

a single front wheel;

a drive member connecting the front wheel and said hand crank whereby manual rotation of the hand crank rotates the front wheel; and

a pair of rear wheels.

4. A handpowered cycling device as in claim 1 including a seat, a back rest and a back rest connection all mounted to the frame whereby a person seated

[1] The disputed terms are underlined.

in the seat manipulates the hand crank for providing [drive] power to the wheel and in doing so imparts a rearward thrust against the back rest of the seat;

said back rest comprised of an upwardly directed elongated support member connected to the frame at a bottom end and subject to flexing along a vertical length, and a rigidifying support member extended from the frame at a position on the frame spaced from the bottom end and connected to the support member upwardly from the bottom end to thereby form a rigidifying triangular support to resist flexing of the back rest when subjected to said rearward thrust.

5. A hand pedaled device as in claim 4 wherein said wheel is a single front wheel, the device comprising:

a frame;

a drive member connecting the front wheel and hand crank whereby manual rotation of the hand crank rotates the front wheel;

and a pair of rear wheels.

'184 Patent, 6:5-7:5.

Claims 6-8 concentrate on the foot and leg supports:

6. A hand powered cycling device comprising:

a frame;

a front wheel mounted on the frame;

a rear wheel mounted on the frame;

a hand crank mounted on said frame and a drive member connecting said hand crank and one of said wheels for imparting rotative driving of said wheel;

a seat on said frame and the frame, wheels and seat in combination structured to provide seating of a person with the person's legs and feet extended forwardly at each side of the front wheel;

a foot and leg support at each side of the front wheel including a forward most cross brace positioned for engagement by the bottom of the person's feet, said support structured for adjustment of the cross brace to position the cross

brace as required for engagement by the bottom of the person's feet for persons having different body lengths;

said foot and leg support at each side of the front wheel furthered comprised of a forwardly projected member;

a rearwardly protected member laterally opposite the forwardly projected member;

and a secondary cross member located rearward of the front most cross brace.

7. A hand pedaled device as in claim 6 comprising:

a frame;

said front wheel being a single front wheel;

a drive member connecting the front wheel and hand crank whereby manual rotation of the hand crank rotates the front wheel; and

a pair of rear wheels.

8. A hand powered cycle as in claim 6 wherein a foot and leg support at each side of the front wheel are comprised of a "U" shaped member, said "U" shaped member structured for lengthwise adjustment; and

a cross support structured for support of the person's leg.

'184 Patent, 7:6--7:41.

DISCUSSION

I. Applicable Law

Patent infringement analysis has two steps: (1) determining the meaning and scope of the patent claims asserted to be infringed, commonly known as claim construction or interpretation; and (2) comparing the construed claims to the device accused of infringing. In re Omeprazole Patent Litigation, 483 F.3d 1364, 1370 (Fed. Cir. 2007). "It is a bedrock principle of patent law

that the claims of a patent define the invention to which the patentee is entitled the right to exclude." Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal quotations omitted), cert. denied, 126 S. Ct. 1332 (2006).

The construction of patent claims, including terms of art within the claims, is a matter of law exclusively for the court. Markman v. Westview Instruments, Inc., 517 U.S. 370, 390 (1996). A claim is construed by first examining the intrinsic evidence: the claim language, the specification, and the prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996); see also Phillips, 415 F.3d at 1324 (reaffirming the approach to claim construction taken in Vitronics, Markman, and Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc., 381 F.3d 1111 (Fed. Cir. 2004)).

Terms in a claim are given their ordinary meaning to one skilled in the art unless it appears from the patent and prosecution history that the inventor used them differently. A patentee may be his own lexicographer, but any special definition given to a word must be clearly defined in the specification or file history. Vitronics, 90 F.3d at 1582. "Usually, [the specification] is dispositive; it is the single best guide to the meaning of a disputed term." Id.

Typically, the intrinsic evidence alone resolves any ambiguity in a disputed claim term. If so, it is improper to rely on extrinsic evidence such as expert testimony, inventor testimony, prior art not cited in the specification or file history, dictionaries, and technical treatises and articles. Id. at 1583-84. Although technical treatises and dictionaries are extrinsic evidence, the court may freely consult these resources to better understand the underlying technology, as long as their definitions do not contradict a definition found in the patent documents. Id. at 1584 n.6. In its discretion, a court may rely on prior art, whether or not cited in the specification or the file

history. Prior art references may be very indicative of how those skilled in the art generally define a term. Prior art, dictionaries, and treatises, all available to the public, are preferred over opinion testimony of either attorneys or experts in the field of technology involving the patent. Id. at 1585.

Extrinsic evidence, particularly expert testimony, may be used to help the court properly understand the claims as long as it is not used to vary or contradict the patent documents. If any extrinsic evidence contradicts the patent documents, it is entitled to no weight. Id. at 1584.

> Had the district court relied on the expert testimony and other extrinsic evidence solely to help it understand the underlying technology, we could not say the district court was in error. But testimony on the *technology* is far different from other expert testimony, whether it be of an attorney, a technical expert, or the inventor, on the *proper construction* of a disputed claim term, relied on by the district court in this case. The latter kind of testimony may only be relied upon if the patent documents, taken as a whole, are insufficient to enable the court to construe disputed claim terms. Such instances will rarely, if ever, occur.

Id. at 1585.

It is improper to read a limitation from the specification into the claims. Golight, Inc. v. Wal-Mart Stores, Inc., 355 F.3d 1327, 1331 (Fed. Cir. 2004) ("While claims must be construed in light of the specification, limitations from the specification are not to be read into the claims, for it is the claims that measure the invention." (internal citation omitted)). "However, the line between construing terms and importing limitations can be discerned with reasonable certainty and predictability if the court's focus remains on understanding how a person of ordinary skill in the art would understand the claim terms." Phillips, 415 F.3d at 1323. Furthermore, claims are limited to preferred embodiments only if "the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." Liebel-

Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed. Cir.), cert. denied, 543 U.S. 925 (2004). Nevertheless, while it is improper to interpret a patent claim as limited to the patent's disclosed embodiments, it is also improper to construe a claim in a manner that is contrary to the patent's disclosed embodiments. Vitronics Corp., 90 F.3d at 1583.

II. Construction of Disputed Terms

A. Hand Pedaled Device / Hand Powered Cycling Device

Brike contends that the terms "hand pedaled device," from Claims 1, 3, 5, and 7, and "hand powered cycling device," from Claims 4, 6, and 8, mean a cycle operated by hand with the rider seated low to the ground. Brike notes that the '184 Patent incorporated by reference two earlier patents by the same inventors which noted the need for the rider to be low to the ground for increased stability. In contrast, Brike notes that the '184 Patent does not incorporate by reference the '173 Patent which shows a high seat above the wheel axles and teaches that the higher seat allows a more natural bike-riding position for greater visibility. Hosteny Decl. Ex. P 1:15-23. Brike argues that the low seating position is supported by language in Claims 6, 7, and 8 and that the drawings all show a low seat. Based on the references to low seat designs, Brike contends that the '184 excludes high seat designs.

Invacare contends that the terms do not require a low seat or a low center of gravity. It argues that none of the words in the claim require clarification from the specification that results in limiting the claims to a low seat. Invacare notes language in the specification which shows that the inventors did not intend to limit the scope of the patent to a low seat providing a low center of gravity. According to Invacare, the claim preamble language cited by Brike–hand pedaled device and hand powered cycling device–can only act as a claim limitation under

circumstances not present here and, in any case suggest nothing about the position of the seat. Invacare points out that the '184 Patent cites the '173 Patent, the patent that shows the higher seat, as one of the "References Cited" on the face sheet of the '184 Patent.

The concept of a low seating position or low center of gravity is only mentioned in a few places in the '184 Patent. The first is in the Abstract: "A device for lowering the structure of the frame below the axis of the front wheel for the purpose of lowering the center of gravity of the bike and rider." '184 Patent, face sheet.

The specification contains the following statements in the "Background of the Invention" section:

> The vehicles of these U.S. Patents ['084 and '927] function very well for their intended purpose. However, it is desirable to make subtle but very important refinements to the present state of hand propulsion technology to provide increased rider comfort, safety and stability. These improvements reach across the many styles of handcycles that are now available and address the ergonomic needs of the operator. The need for the operator to be low to the ground for increased stability was addressed in our earlier U.S. Pat. No. 5,354,084. With the present invention we have analyzed the rider's total body position and sculpted the handcycle around the operator to maximize comfort, accessibility and safety.

'184 Patent, 1:23-35. The section continues with a description of the ability to move the hand-crank location, support for the legs and feet for different size riders, improvements to the backrest, bumpers for body-lean turning, stiffening of the frame for efficiency, and quick removal of the rear axle. The section ends with:

> The invention provides a means for placing the main structure of the frame below the axis of the front wheel to provide the lowest possible center of gravity for the rider and vehicle. The invention herein is directed to the satisfaction of all the above objectives.

'184 Patent, 1:59-63. Neither the section entitled "Brief Description of the Invention" nor the claims nor the "Detailed Description of the Preferred Embodiment" contain anything about lowering the seating position. The end of the "Field of the Invention" section, however, states:

> All of these ideas vastly improve handcycling in general. They are not limited to one particular design but improve the rideability of any vehicle that is hand-powered.

'184 Patent, 1:13-16.

A claim must "explicitly recite a term in need of definition before a definition may enter the claim from the written description." Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248 (Fed. Cir. 1998). I do not see anything about the terms "hand pedaled device" or "hand powered cycling device" requiring definition concerning a low center of gravity.

I also note that the references to the other patents do not describe the particular matter to be incorporated: "The following drawings and detailed description are intended to incorporate by reference the figures and drawings of previous ['535 and '084 patents]." '184 Patent, 2: 64-67. The inventors made a broad reference to incorporate all the figures in two patents without any particularity.

"To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents." Advanced Display Systems v. Kent State University, 212 F.3d 1272, 1282 (Fed. Cir. 2000), cert. denied, 532 U.S. 904 (2001). The extent of incorporation is a question of law. Id. at 1283. I conclude that nothing about the seating position or low center of gravity was incorporated into the '184 Patent. I agree with Invacare that the mention of the low seating position and need for increased stability that "was addressed in our earlier U.S. Pat.

No. 5,354,084," '184 Patent, 1:30-32, indicates that a low seating position is not the focus of the '184 Patent.

I am not persuaded that the few references to a low seating position in the specification are clear enough to support the contention that the invention is limited to that type of handcycle. This is especially true in light of the statement that the ideas are not limited to one particular design but improve the rideability of any hand-powered vehicle. If the specification is clear "that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question." Scimed Life Systems v. Advanced Cardiovascular, 242 F.3d 1337, 1341, 1343 (Fed. Cir. 2001) (the specification's statement that the "intermediate sleeve structure defined above is the basic sleeve structure for all embodiments of the present invention contemplated and disclosed herein" is sufficient to limit the claims by excluding other structures). The statements in the '184 Patent are not nearly as clear as the statements in Scimed and do not limit the term to a low seating position.

In sum, the specification does not provide support for limiting the claims to handcycles with the riders seated low to the ground.

Interpreting the prosecution history, Brike states that original Claim 6, which contained the low center of gravity language, was not part of the application by the time the amended specification, now part of the '184 Patent, was entered. Because the amended specification contains references to "the invention" when discussing the low center of gravity, Brike argues that the claims must be interpreted by requiring a low center of gravity. It also contends that the

inventors did not make any disclaimer to distinguish their invention from the prior art that is clear enough to support prosecution history estoppel.

Invacare also relies on the prosecution history because the original Claim 6, requiring a low center of gravity, was canceled before the patent issued.

The inventors filed the original application without a patent attorney or agent listed on the application. It contained the same sentence about the lower center of gravity in the Abstract as is contained in the issued '184 Patent. Invacare's Ex. B at TE00024. Original claim 6 was a "means for placing the structure of the frame below the axis of the front wheel for the purpose of lowering the center of gravity of the bike and rider." Id. at TE00027. The examiner rejected all claims for several reasons, including that original Claim 6 was anticipated by the '084 Patent. Id. at TE00039-045. The inventors responded with an amendment that redrafted the entire application, including adding a specification containing the Background section with the low center of gravity statements that remain in the issued '184 Patent. Id. at TE00051-076. Regarding original Claim 6, the inventors stated that the prior art patents teach a frame structure above the axis of the front wheel. Id. at TE00075. The examiner concluded that the amendment was not fully responsive to the problems. Id. at TE00093. The inventors responded by canceling all original claims, replacing them with new claims, and withdrawing original claim 6. The new claims were rejected, the inventors responded, and claims were eventually allowed.

It is clear to me that the few statements in the '184 Patent concerning a low center of gravity either described the background of the invention or were vestiges of original Claim 6 which were not deleted when the inventors withdrew that claim. It is also clear that the inventors had great difficulty complying with the technical intricacies of the required form for a patent

application. An applicant must make a clear and unambiguous disavowal of claim scope in the prosecution history before the statement can be used to depart from the meaning of the term provided in the written description. Storage Technology Corp. v. Cisco Systems, Inc., 329 F.3d 823, 833 (Fed. Cir. 2003); Omega Engineering, Inc. v. Raytek Corp., 334 F.3d 1314, 1325-26 (Fed. Cir. 2003). That standard has not been met here. Consequently, the prosecution history does not aid the analysis.

For these reasons, I conclude that the terms "hand pedaled device" and "hand powered cycling device" do not require a low seating position or low center of gravity.

B. Releasable Locking Means

The parties agree that the term "releasable locking means" is a means-plus-function limitation which must be construed in accordance with 35 U.S.C. § 112 ¶ 6.

The parties further agree that the claimed function is "for releasably locking the arm segments at a specified distance between said points of connection whereby with the locking means released, the crank arm position relative to the frame can be selectively adjusted to any horizontal or vertical position within a range of movement as permitted by the pair of arm segments." '184 Patent, 6:22–6:28.

Brike contends that the structure is described in the '184 Patent at lines 4:63–5:41, and any equivalent structures. This lengthy description discusses the cranks, the bottom bracket, the bolts and locking nuts on the linkage arms, the telescopic tubular sections, and brake and shift levers.

Invacare contends the structure is the combination of locking nuts on bolts 93 and 97 at opposite ends of linkage arms 94, pinch clamp 85' on the telescoping tubes 6 and 11, and locking

nut on bolt 100 at the bottom of tube 11. Invacare argues that this is the only structure disclosed in the '184 Patent for performing the releasably locking function.

A "means-plus-function" limitation cites a function to be performed rather than a definite structure or materials for performing the function. Such a limitation is governed by § 112, ¶ 6:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112.

> The first step in the construction of a means-plus-function claim element is to identify the particular claimed function. The second step in the analysis is to look to the specification and identify the corresponding structure for that function. Under this second step, "structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim."

Med. Instrumentation and Diagnostics v. Elekta, 344 F.3d 1205, 1210 (Fed. Cir. 2003), cert. denied, 541 U.S. 959 (2004) (quoting B. Braun Med. Inc. v. Abbott Labs, 124 F.3d 1419, 1424 (Fed. Cir. 1997)) (internal citation omitted).

Brike's identification of the supporting structure is much too broad for the claimed function because it contains structure that has nothing to do with the function, such as the brake and shift levers. At oral argument, Brike contended that Invacare's proposal did not include structure to allow pivoting between the ends of tubular sections 2 and 5 and the front axle. I agree with Invacare's response that the specification does not disclose structure to perform the releasably locking function on these pieces. Instead, the specification states that the ends of the tubular sections are flattened and have a slot to allow them to be slid over the front axle. '184

Patent, 5:17-24. Because this does not discuss structure for releasably locking the arm segments, I will not include it in the list of corresponding structure.

I adopt Invacare's identification of the corresponding structure: the combination of locking nuts on bolts 93 and 97 at opposite ends of linkage arms 94, pinch clamp 85' on the telescoping tubes 6 and 11, and locking nut on bolt 100 at the bottom of tube 11.

C. Selectively Adjusted

The parties agree on what the term excludes but have not reached agreement on what the term includes.

Brike contends that the term "selectively adjusted to any horizontal or vertical position within a range of movement as permitted by the pair of arm segments" means a hand crank position adjustable within a restricted plane, and excluding a device in which the hand crank position is adjustable only on an axis linearly coincident with the axis of two telescoping sections. Brike contends that the movement can occur in two axes at once but since the up/down and forward/rearward movements are independent, the movement is not limited to occurring in two axes.

Invacare contends that the term "selectively adjusted to any horizontal or vertical position within a range of movement as permitted by the pair of arm segments" means a hand crank position that is adjustable along at least two axes anywhere within a restricted plane, excluding a device in which the hand crank position is adjustable only linearly, coincident with the axis of two telescoping sections. According to Invacare, it is impossible to move the hand crank up and down independently of forward and rearward and both vertically and horizontally simultaneously unless adjustability is permitted along at least two axes.

The specification states:

> Whereas in the prior vehicles different rider size and riding style was difficult to adjust for or the adjustments were always limited in someway [sic] the present invention offers the rider almost unlimited adjustability. The handcranks are mounted to a structure that includes a combination of telescoping sections, linkage arms and pivot points that form an approximate triangular shape. This shape allows the cranks to be moved about both up and down independently of the forward and rearward adjustment, forward and rearward independently of the up and down adjustment or both vertically and horizontally simultaneously for differing arm lengths and/or rider height and then be locked rigidly into place once the desired position is located. In previous hand powered vehicles the adjustment of the location of the cranks for rider use was limited to telescoping the frame in and out or telescoping the cranks in and out of a fixed inner and outer cylinder arrangement that limited the crank arm adjustment to linear movement only.

'184 Patent, 1:67-2:16.

The parties are close in their constructions and appear to agree on the movement allowed by the adjustment, namely that the movement can be horizontally only or vertically only or both together, as stated in the specification. They cannot agree over the use of axes but I do not think the term is necessary. The construction can borrow language from the specification to make the meaning clearer.

I construe the term "selectively adjusted to any horizontal or vertical position within a range of movement as permitted by the pair of arm segments" to mean a hand crank position adjustable anywhere within a restricted plane and allowing movement either up and down independently, or forward and rearward independently, or both up/down and forward/rearward simultaneously, and excluding a device in which the hand crank position is adjustable only on an axis linearly coincident with the axis of two telescoping sections.

D. U-Shaped

Brike contends that the term "U-shaped" means a structure in the shape of the letter "U." Brike's main contention is that a "U" is not a "D" and that adding structure to a "U" to turn it into a "D" invalidates Claim 8 because the prior art, the Predator II cycle, has a D-shaped footrest. To construe the term in a way which would cause an invalidation, according to Brike, can only be done if supported by clear and convincing evidence. Brike also argues that adding structure to the "U" eliminates an inherent feature of Claim 8.

Invacare contends that the term "U-shaped" means in a shape of the letter "U" and "U-shaped member" means the forwardly projected member, front most cross brace and the laterally opposite rearwardly projected member, cooperatively defining a U-shape when looked down upon from above. Invacare notes that Claim 8 uses the word "comprised," which is open-ended so that the claim encompasses all devices satisfying the elements in the claim, regardless of whether the device has additional elements not recited in the claim. Invacare also points out that the specification contemplates closing the back of the U-shape.

As a preliminary matter, I disagree with Brike's position that a claim construction argument that would invalidate a claim must always be supported by clear and convincing evidence, citing Budde v. Harley-Davidson, Inc., 250 F.3d 1369, 1376 (Fed. Cir. 2001). Budde concerned a challenge to a means-plus-function limitation that lacked disclosure of structure in the specification sufficient to be understood by one skilled in the art as adequate to perform the recited function, thus making the claim indefinite. I am construing a limitation in a different form which does not have the requirements of a means-plus-function limitation. I do this as a matter of law and do not address at this point whether the claim could eventually be invalidated

for a reason such as obviousness or anticipation. Thus, the clear and convincing evidentiary standard does not apply.

The specification does not provide any additional definition of the meaning of "U-shaped," generally referring to the term as one of the building blocks of the foot and leg support:

> Straps are the preferred method of leg support in this case, however, any means of supporting the rider's legs at the rear of the "U" shape 82 would work as well or even closing the back of the "U" shape 82 to make a long rectangle that supports the rider's foot and calf. . . . Tube section 82 is bent in a "U" shape with one leg of "U" telescopically inserted the smaller hole in clamp 85 and the clamp and "U" shape are then inserted telescopically into tubular section 48 or 49. Telescoping the "U" shape is the preferred means of adjustment, however brackets to 82 that can be moved forward or rearward relative to tubes 48 or 49 would also work as well.

'184 Patent, 4:45-62.

There is no need to address during claim construction whether a "U" is the same as a "D" because I am only construing the claim terms and am not deciding if they read on the accused device. Similarly, I see no reason to construe the claim with specific reference to the preferred embodiment disclosed in the specification, as Invacare contends. That is too limited of a construction. Accordingly, I construe the term "U-shaped" to mean in the shape of the letter U.

E. Foot and Leg Support at Each Side of the Front Wheel

Brike contends that the term "foot and leg support at each side of the front wheel" means a structure which supports both the foot and the leg, and which overlaps the front wheel, is near the front wheel, and which allows the feet and legs to extend forwardly at the sides of the front wheel. Invacare contends that the term "foot and leg support at each side of the front wheel" means a support that supports the leg by contacting the foot, ankle or leg, but does not necessarily

require contact with the leg, with the supports on opposite sides of the plane defined by the front wheel.

Focusing on the first part of the term, "foot and leg support," Brike notes that the claims and specification refer to the foot and leg as distinct parts of the body and do not refer solely to the foot. Brike points to the secondary cross member which supports the leg and argues that if only the foot was supported, this structure would have no function. Thus, Brike contends that both the foot and leg must be directly supported by contact.

Invacare's basic position is that a foot support also supports the leg because the two are connected. Invacare argues that Claim 6 never requires direct contact with the leg, in contrast to the claim's express requirement of engagement, or contact, between the cross brace and the person's feet. In Figure 3, Invacare points to leg support strap 83, which is drawn at or below the smaller rider's ankle bone rather than his leg. Furthermore, Invacare notes that the claim does not expressly require a foot support *and* a leg support, stated separately.

The specification discusses the foot and leg supports in a few places. It states:

> The invention provides a means for supporting and protecting the rider's legs and feet simultaneously while providing adjustment to accommodate different size riders.

'184 Patent, 1:40-43.

> The present invention also recognizes the need for support of both the rider's legs and feet and not just the rider's legs in a cradle type device. The present invention provides a wrap around style of footrest and leg support that telescopes forward and rearward on the mainframe to accommodate different leg lengths. By wrapping around the rider's foot the footreat-leg [sic] support combination keeps the rider's foot from flopping to the side while at the same time supporting the leg. This type of support also provides protection to the rider's feet and legs from collision or side impact. Previous handcycles left the rider's feet to dangle in front of the front leg support.

'184 Patent, 2:17-28.

> Combined footrests and leg supports 82 telescope in a forward and rearward direction within tubing 48 and 49 respectively. Leg support straps 83 attach to footrests 82 and tubing 48 or 49 to form a sling for the purpose of supporting the rider's leg and foot. Straps are the preferred method of leg support in this case, however, any means of supporting the rider's legs at the rear of the "U" shape 82 would work as well or even closing the back of the "U" shape 82 to make a long rectangle that supports the rider's foot and calf.

'184 Patent, 4:41-49.

I am most persuaded by the fact that Claim 6 does not expressly require contact with the leg but does expressly require engagement, which I construe to mean contact, of the cross brace with the person's feet. The claim also does not require anything to be in contact with the secondary cross member. The specification states that by wrapping around the foot, the footrest support also supports the leg. This intrinsic evidence is highly persuasive that Invacare's position is the correct one.

I have reviewed Invacare's argument based on the prosecution history but I cannot glean much from it.

I construe the term the term "foot and leg support" to mean a support that supports the leg by contacting the foot, ankle or leg, but does not necessarily require contact with the leg.

Turning now to the term "at each side of the front wheel," it appears from the briefing that the parties agree that the term does not require the foot and leg supports to be bounded fore and aft by the front and rear edges of the front wheel. I also agree.

Brike contends that the use of the word "at" implies a close proximity. Brike contends that Invacare's use of a plane, which is an unbounded geometric figure, would allow the supports

to be so far forward of the front wheel, or even behind the seat or back wheel, that they would not support the feet and legs.

I do not agree that the use of a plane in the definition of the term would allow the supports to be behind the back wheel because the claim requires them to be at the side of the front wheel. Thus, I construe "at each side of the front wheel" to mean overlapping at least a portion of the front wheel and on opposite sides of the plane defined by the front wheel.

Putting the two phrases together, I construe the term the term "foot and leg support at each side of the front wheel" to mean a support that supports the leg by contacting the foot, ankle or leg, but does not necessarily require contact with the leg and overlapping at least a portion of the front wheel and on opposite sides of the plane defined by the front wheel.

F. Cross Support Structured for Support of the Person's Leg

Brike contends the term "cross support structured for support of the person's leg" means a support which contacts the leg. Brike relies on the same arguments as for the term "foot and leg support."

Invacare contends the term "cross support" should be construed to be a support that supports the leg by contacting the foot, ankle, or leg, but does not necessarily require contact with the leg. Invacare also relies on its same arguments.

For the reasons just stated, I construe "cross support structured for support of the person's leg" to mean a support that supports the leg by contacting the foot, ankle or leg, but does not necessarily require contact with the leg.

CONCLUSION

The terms in dispute are construed as stated above.

IT IS SO ORDERED.

Dated this 14th day of June, 2007.

/s/ Garr M. King
Garr M. King
United States District Judge